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An

Inaugural Essay
on

Continued Bilious Fever

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Although from its frequency & destructiveness
fever has, in every age, attracted a large share
of public attention, it is even in our day
almost a terra incognita. But a few years have
passed since the first principles of the pathology
of fever, were laid down. The very term Idiopathic
implies on the part of our medical ancestors a
total ignorance of that local origination of fever,
now, through the lucid teachings of the professor
of the Practice of Medicine in the University of
Pennsylvania, so generally conceded by American
practitioners. At length is laid the foundation
of a philosophic system, & deductions from
facts supersede the influence of facts from
hypothesis. By this mode of observing we are
taught that Fever commonly commences in the
Stomach & from its multiplied sympathies affects
many & even the remotest parts. The number of
organs implicated modifies the aspect of the disease.

& as conducing to the same end may be added the period of life, the temperament of the body, the tone of the fibre, the kind of diet on which the individual has been previously nourished, & the state of mind. When the diseased impressions are made on the stomach they are imparted, generally, in the first place to the chyliferous viscera, particularly the liver, as being connected with it not only by associated functions but also continuity of structure. The mucous membrane of the one pervading, the extensive & numerous ramifications of the ducts of the other, must participate in any strong or deleterious impression & be extended throughout it & thence to the heart & blood vessels. The lungs do not so frequently suffer.

Then the skin becomes involved if it is the most weak point as is evinced by its dry, parched & burning character. The head also shares in the diseased action set up in the stomach, for a close connection exists between them, especially, between the mucous^{ous} of the one

and the arachnoid membrane of the other. Thus like
radii from a centre do all the morbid phenomena
proceed & either quickly & violently, extend their striking
influence, or more slowly & leniently, according to the
nature of the morbid cause, the strength of the
constitution and the number of the organs, systems, or
tissues implicated. The most prevalent form of
Continued Fever in the southern states, is the
common Billious Fever commencing with the
symptoms of Synocha & succeeded by those of Typhus.
Hence nosologists have designated it by the appellation
of Synochus, it being a combination of the two
antecedent neither participating in the truly inflammatory
symptoms of the one (if it does exist independent of the
Phlogæmia) nor in contagion in the other, which is one of its
distinguishing features, but blending them together in
a slight degree. Of continued fever the ancients admitted
a great diversity of species, but the above division, is
sufficiently comprehensive. Continued fevers run their

course with no intermission, but a slight degree of remission in the morning & exacerbation in the evening. Take place daily & this Intermittent type accompanies all fevers in the early stages when arising from marsh miasma & none but the Ephemeræ can be said to be continued, the small pox not being an exception. During the hot months inflammatory fever is developed & the abdominal viscera suffer most, but in winter the Phlogæmia harrows the people thus bringing them to suffer at different seasons the maladies of the tropics & northern latitudes. —

Causes. So numerous, diversified, & diffusive are the sources of fever that all ages & conditions are subject to its attacks. The most usual causes are, marsh miasma as we find it prevalent in paludal situations. It sometimes occurs without the agency of miasma, elevated sections of country suffering by its visits. Cold, heat & moisture alternating, great exertions, nature of the climate are causes of this disease, but it is often

confined in obscurity. Also excessive heat acts as a morbid agent & occasions great disorder of the functions, at first directly stimulating & exciting the system & speedily leaving it in a state of corresponding debility being thus rendered liable to be acted on by the exciting causes. The exciting causes are the same as in other fevers. Errors in eating & drinking, violent exercise, improper exposure & particularly to the sun or night air or the fogs succeeding to hot days, inappropriate or partial clothing, or wet clothes especially when combined with fatigue, fasting, severe evacuations, sudden changes of weather, too close an application to study, or giving way to some depressing passion &c. These causes produce various modifications of the disease & with greater celerity at different times, when influenced by season, peculiarities of situation, temperament & conditions of body. —

Symptoms. The approach of this fever is marked by languor, heaviness, anxiety, sighing, listlessness, yawning, attended by alternate sensations of heat & cold, pain in

the back & limbs & even regions, with all the phenomena
of an intermitted paroxysm. The sense of heat & its
effects after a little time become less violent & are attended
with flushings & at last going off altogether the fever becomes
formed accompanied with great pain in the head & back,
increased heat & dryness over the whole body, nausea & vomiting
of bilious matter, great thirst, furred tongue, loss of appetite,
heat, distention, pain & tenderness over the stomach, hot & fetid
breath, respiration quick, full, strong & frequent, pulse, determination
to the head sometimes delirium, or sallow skin & often eyes also.
Sometimes when the attack is violent there is delirium
& red eyes. In the commencement the bowels are constipated
sometimes bile is brought away by purging or the stools
are serous. The urine is dark coloured & scanty. In the 24
hours particularly in the morning there is an abatement
of the febrile action & generally a slight perspiration of
short continuance & then the paroxysm recurs with
more vehemence, but continuing longer than the fifth
day, the vital forces become reduced, skin dry or colligative

perspiration, with deficient urinary secretion. We have also a dark incrustated tongue. Diagnosis. The season of the year, vomiting of bilious matter & the sallowness of the skin, also the constitution & habits of the patient, the nature of the predisposing & exciting causes, will aid us in the diagnosis. Prognosis. There are certain symptoms which indicate a favourable or an unfavourable termination of the disease, yet these are modified and influenced by the age & habits of the patient, the circumstances in which he is placed & the period of time which has elapsed before medical treatment is resorted to. If mercurial inflammatory excitement, as the red & turgid face, throbbing, quick, full, tense or hard pulse, intolerance of light with vertigo or early stupor & delirium, should continue in spite of the remedies for several days, the event may be doubtful, but if to these be added picking at the bed clothes, starting of the tendons involuntary discharges by stool & urine & hiccough, it will then be almost certainly fatal. But on the

contrary, if there is a subsidence of febrile movement & other symptoms moderate there is a tendency to a crisis which is marked by a natural skin, moist & relaxed & temperate, pulse becoming soft, slow & natural, tongue clean with cessation of thirst, alvine discharges dark, Tarry & fetid or of a natural colour, the urine depositing a latrineous sediment, scabs appearing about the mouth & above all the enjoyment of the intellectual faculties. The symptoms presenting, we may expect a happy termination. Return of sleep is one of the most favourable symptoms.

Sometimes the fever terminates without any such distinct manifestations & without increased evacuations, the change is slow & gradual & gently tapers off. Dissections. The appearances on dissection in those who die of fever sufficiently point out that danger is to be chiefly apprehended from the occurrence of inflammation & that against such a state the measures of the physician, are to be directed, relieve the local affections & the general disease will be mitigated. The same morbid phenomena appear as

in recent cases of intermittent fever. The mucous coat of the stomach about the pylorus is intensely phlogosed & streaks, of inflammation, appear on its surface & also in the duodenum. The liver rarely escapes the inflammation & is often enlarged & sometimes bloated with heavy congestion & the gall bladder filled with vitiated bile. Sometimes the spleen is engorged & its peritoneal covering inflamed. The arachnoid membrane is nearly always inflamed & the vessels of the central substance injected. And sometimes the tissue of the spinal marrow, is inflamed & effusions & extravasations are often seen. The lungs are seldom affected as has been mentioned.

Pathology. The pathology of this disease appears probably to consist in irritation of the nerves of the mucous coat of the stomach, which irritation continuing must induce inflammation, this inflammation either from sympathy, or continuity of structure involves the general system producing ultimately if not arrested extensive disorganization & death. There is always a tendency in fever to a spontaneous crisis on particular days. Hippocrates

called these judgement days from the notion that nature on these occasions pronounced the fate of the patient. They are the 3, 7, 9, 11, 14, 17, 20, 23, 26 & some extend them to the 27, 30 or 42. After these days there is a tendency to a diminution of the disease & a corresponding exacerbation on the intermediate ones: This was more particularly the case when Hippocrates wrote, his practice being slender & the climate mild & favoured by the habits of the Grecian people. But now by wild deviations from nature, sudden changes of weather, & the active treatment employed, that tendency to critical solution is prevented. The progress of the disease is often arrested by the employment of copious bleeding, active purging, emetics, blisters, & the revolutionary power of mercury. Yet even under these circumstances all fevers of miasmatic origin retain a critical tendency & upon these days we should lend nature our greatest aid to bring the disease to solution. Treatment. The stage at which we see the patient influences

the treatment. Being called in the early stage, the object is to overcome the nascent impression before it becomes deeply rooted & forms itself into open fever. If on examining the patient we find gastric irritation, head aches & slight disturbances of the circulation, we first evacuate the prima via by an emetic which symptoms demanding it, may be repeated, apply leeches to the head, give cold demulcent drinks and at the same time employ stimulating pediculation making at the same time cold applications to the head & give the neutral mixture. But the disease being formed, the lancet must be resorted to. We have at this time a strong pulse, hot skin, determination of blood to the brain or other important organs. To be productive of benefit so much blood as to reduce the excitement & make a sensible impression on the disease, should be detracted. To effect this it is necessary to bleed regardless of quantity until the object is attained. By bleeding thus freely at once the structure of the

organ is preserved & the disease subverted. At this very juncture employ topical bleeding from the organ mostly suffering, as from the head, stomach &c. This may be effected either by leeches or cups, the benefits resulting are frequently very great. Large accumulations of bile, scordes, feces, or any other morbid substance in the stomach or alimentary canal demand evacuating medicines especially emetics of Tartarized Antimony in the first instance if no symptoms contra indicate its use, as the tongue florid on the point & edges & covered in the middle with a white coat as if milk had been swallowed, tenderness of the pit of the stomach retching & vomiting of green matter, these being about the operation of the Antimony, will be attended with the happiest results. When vomiting can not be employed from prejudice or peculiarity of constitution or after emetics have been employed, we may then resort to purgatives in different combinations the best is the Proto Chloride of Mercury with Calop,

Pulvis Rhei, Gambogia, or Elaterium. They operate
in less quantities & more leniently & effectually than
when taken separately. But the Proto chloride of
Mercury in doses of from 5 to 10 grains, every ~~four~~
two or three hours until it commences operating,
& then promote its action by the sulphate of Magnesia
or oleum Ricini, is better than the drastic articles.
This practice should be continued until we effect
the complete discharge of the morbid secretions of the
Stomach & bowels, as evidence of this we have dark,
tarry, & fetid stools which is truly a morbid secretion
& not bile as has been thought. The more dark,
tarry, & fetid these discharges are the better. The liver
The commencement is excited & we have an increased
secretion of bile, but almost always, this is followed
by a state of correspondant colic & torpor & from the
secretory action of this viscus being either impaired
or suspended we have depraved secretions or the sallow
skin & perhaps eye. When derangements of function will

have been corroded by the preceding practice if then
existing. If occurring after this the Proto chloride of
mercury, similarly administered & worked off by oleum
Ricini is what will be demanded to restore it.

To keep the bowels in a soluble state the employment of the
saline purgatives may be resorted to with advantage,
the effects of which, are increased by the addition of about
a grain of Tartarized Antimony to the cure. We resort
to enemata either to promote the operation of other
medicines or where from the irritability of the stomach
we can not administer them by the mouth. Enemata
I think, after the bowels have been thoroughly evacuated by
purgative medicines, might be more frequently resorted
to than at present, with decided advantage. They may
consist of any mucilage & oil, or chicken water, with
a small portion of Pulvis Rhei, & Molasses or soup, a
little common salt being added or any thing that
will gently stimulate the intestines. To reduce topical
inflammations, the local detraction of blood by cups &

leeches, is employed & at the same time we call to our aid other evacuating means, as purging or if the general system becomes involved we employ venesection. So asist in reducing febrile action cold applications to the surface, are called for, these applications should consist of cold water or iced water or what is better, cold water & vinegar. As being the most agreeable to the patient & less hazardous in its effects, these applications should be made by sponging rather than by aspersions or effusion. The indications for the employment of the sponge, are a tolerably vigorous pulse & the skin preternaturally hot & dry. Used under such circumstances it calms irritation, compo^{ses} to rest, & induces sleep. In high fever & at the same time, the stomach & bowels phlogosed & the skin hot, the best effects result from cold water injections. Directed in other conditions than those pointed out, they are not only useless but pernicious. At this moment refrigerants are advantageously employed, which by reducing vascular force not unfrequently produce relaxation of

the surface & perspiration. To accomplish this we would employ either the nitrous powder or a solution of the sulphate of magnesia with sweet spirits of nitre & added to these a small quantity of tartarized antimony. I would use them in the following proportions sulphate of magnesia half an ounce, sweet spirit of nitre half an ounce, tartarized Antimony two grains, water eight ounces, Dose half a table spoon full every ^{hour} ~~two~~ or three or oftener if symptoms demand it. This I have found to answer very well. By the concurrent operation of these medicines the excitement of the system being reduced, Diaphoretics may be now advantageously resorted to. We should not resort to diaphoretics in Bilious Fevers until inflammatory & vascular action is reduced by the remedies above mentioned. By prematurely resorting to Stimulants or Diaphoretics, or depleting too sparingly in the commencement the fever is converted into a Typhoid Fever or runs a more protracted & dangerous course. After the system has

been prepared for their reception they may not only
mitigate but completely arrest the fever. The skin
becoming relaxed the inference is plain that nature
is about to succeed in bringing the disease to a crisis
& should be assisted by artificial means. Now diaphoretics
are demanded & of these the Antimonials, by general
authority, are placed at the head of the list. Of the
preparations of antimony the Tartarized Antimony is
preferable. The best effects of this medicine are attained
when it least disturbs the stomach, though high
authorities declare otherwise. To procure the desired
effect of Tartarized Antimony, is difficult as we can
not always regulate the dose from the circumstances
of the stomach as regards irritation. The usual dose
is the $\frac{1}{4}$, $\frac{1}{2}$, or $\frac{3}{4}$ of a grain every two or three hours.

Antimonials seem to possess a specific antifebrile
quality independently of their diaphoretic property.
If from the irritability of the stomachs the antimonials
are rejected we then should resort to other medicines

less offensive to the stomach & of these the effervescent draught,
or mineral mixture, is best or *Spiritus Minderopii* answers
very well. Should external applications become necessary,
the vapour bath from pouring vinegar on heated bricks or
heated brick themselves being very retentive of heat
or other applications of a similar nature, will produce
profuse perspiration but these are not generally ad-
-missible. At this time after the system has been reduced
sufficiently, the disease progressing, blisters, with de-
-cided benefit, may be had recourse to, they are to
be applied alternately to the feet & upper extremities, to
derive full advantage from their use, or they may
be demanded on both at the same time. At this
stage of the disease by some the bark has been highly
extolled & by others reprobated. It is now generally ad-
-mitted that the bark is inadmissible except where there
is a decided tendency in the fever to intermit & even
here we must have a moist tongue & relaxed surface
independent of any cerebral affection. By Doct^r Holcomb,

the Sulphate of Quinine, is given in all stages, with
it is said, decided advantage, even where the skin is dry
& it is also said, is followed generally by perspiration
& conduces to a critical solution. Not yet having arrested
the progress of the disease we resort to mercury,
which is generally effective if the system can be
completely affected by it. But not infrequently the
patient dies before we can affect the system it
being difficult to get the medicine to act. We should
avail ourselves of the different methods of introducing it
into the system, particularly by injections in con-
siderable quantities. In the course of the disease
effusions arise, which it is necessary that we should
notice. 1st Determinations to the head with Sclerium
or a strong tendency to it; The remedies are, cold appli-
cations to the forehead, vinegar & water, ice water,
topical bleeding by cups or leeches, or the temporal
artery may be opened, the leeches & cups not being
at command. While cold is applying to the head, not

applications, as hot water &c. should at the same time be made to the rectumitis. When proving inefficient a blister should be applied to the back of the neck, & on its failing to afford relief the head may be nearly covered with one, which no symptom forbidding it should be permitted to remain on 24 hours. Great restlessness may occur during the first stage of the attack or afterwards. If accompanied with increased temperature, the skin dry & hot, the loss of blood is indicated, sponging the surface with cold water & immersing the arms in it affords in many instances signal benefits. Hoffmann's Anodyne Liqueur or the Camphorated emulsion should be employed. Occurring after this opium becomes admissible & best in the form of the Black Drops, opiate enemata where opium disagrees with the stomach, may be substituted. A vitiated state of the alimentary canal, is frequently productive of considerable thirst which is to be relieved by purgatives, cleansing the tongue, lips, & gums with Lime juice or vinegar charcoal &c.

water & frequently rinsing the mouth with cold water
& minute portions of acid drinks. If dependant on
deficient secretion we may employ the Proto chloride
of Mercury, in Doses of $\frac{1}{4}$ of a grain every 3 or 4 hours.
There is usually to be observed throughout the progress
of the fever, much dryness of the tongue & fauces &
extreme thirst. Here the Practice of the Physicians of
antiquity differed much, some gave drinks freely,
while others prohibited it altogether. A medium
practice is that which should be pursued, that is
neither induce nausea or vomiting by deluging the
stomach or create anxiety by refusing it which would
increase the disease. Lemon Acid or Vinegar & water,
apple, toast or tamarind water, acidulated barley water,
& the infusion of Liguonia root may be employed
with advantage. A small portion of common water
if the temperature be not too low, should not be
refused. Warm beverages are frequently effective in
allaying thirst where the above remedies have failed.

Gastric distress, nausea & vomiting, may depend on bile
or irritability of the stomach, or what often happens phlogo-
sis of that organ. Accumulations of bile may be
known to exist should there be bilious evacuations.
This being the case we prescribe either an emetic or a
purg of Proto chloride of mercury worked off by mag-
nesia or the Sulphate of magnesia. To quiet irritability
a number of remedies have been employed. The
effervescent draught, Peppermint, Lime water &
milk, mint or clove tea & Proto chloride of mercury
in small & repeated doses as $\frac{1}{4}$ of a grain with $\frac{1}{8}$ of a
grain of opium occasionally added would be found ser-
viceable. An old opium pill sometimes acts promptly. An
opiate emetic should also be directed. Synergous with
the administration of the above remedies, external applica-
tions, as circumstances may require, may be made
as clove fomentations, cloths cut of hot spirits, applied to the
stomach & removed as often as they become cold, Stimulating
pediluvium made so by mustard, sinapisms to the

anels, or a blister to the stomach. Should there be
phlogosis of the stomach which is not uncommon,
every thing stimulating should be withheld. When
there is a sense of internal heat, tenderness of the
Epigastrium, Tongue florid on the edges & tips &
presenting the appearance in its centre of milk
having been swallowed, hard & corded pulse we know
phlogosis exists. Local Depletion is here indispensable
which is effected by the application of leeches over
the phlogosed part. Cold applications should also be
made to the same part & frequently repeated. These
measures aided by the exhibition of cold mucilaginous
drinks agreeably acidulated with Lemon juice, will
generally succeed in removing the gastric phlo-
-gosis. Congestion or inflammation of the stomach
Liver may be the consequence of a phlogosed stomach
For the relief of these local affections local remedies
are most appropriate, as leeching & other Depletory
measures. During the progress of the disease little or

no nourishment is admissable, a small quantity of
chicken or barley water with the fluids necessarily
Taken is as much as will be required. In the
commencement of convalescence we should direct the
farinaceous articles, as arrow root, sago, rice, &c.

After a few days, eggs slightly cooked, oysters or
chicken may be allowed. Convalescent patients should
eat little ~~at~~ once & as is usually directed, frequently, but
not so frequently, that the stomach by the aggregate
shall be fatigued or oppressed. Should the bowels
become constipated some gentle purgatives as the
oleum Ricini may be directed. Convalescence being
slow & the patient feeble Tonics as the Elsie's Nitriol or
the bark or perhaps these two ^{articles} prescribed together would
be the better prescriptions.

